

Board of Intermediate Education, Andhra Pradesh.

Intermediate – I Year Syllabus w.e.f. 2012 – 13

Subject : BOTANY – I

S. No.	Topics	Page No.
UNIT-I	DIVERSITY IN THE LIVING WORLD	
	<p>1. The living world What is living? Diversity in the living world; Taxonomic categories and taxonomical aids.</p>	
	<p>2. Biological Classification Five kingdom classification - Monera, Protista, Fungi, Plantae and Animalia, Three domains of life (six kingdom classification), Viruses, Viroids, Prions & Lichens.</p>	
	<p>3. Science of plants - Botany Origin, Development, Scope of Botany and Branches of Botany.</p>	
	<p>4. Plant Kingdom Salient features, classification and alternation of generations of the plants of the following groups – Algae, Bryophytes, Pteridophytes, Gymnosperms and Angiosperms.</p>	
UNIT - II	<p>STRUCTURAL ORGANISATION IN PLANTS- MORPHOLOGY</p> <p>5. Morphology of flowering Plants</p> <p>Vegetative : Parts of a typical Angiospermic plant; Vegetative morphology and modifications- Root, Stem and Leaf- types; Venation, Phyllotaxy.</p> <p>Reproductive: Inflorescence – Racemose, Cymose and special types (in brief).</p> <p>Flower : Parts of a flower and their detailed description; Aestivation, Placentation.</p> <p>Fruits : Types- True, False and parthenocarpic fruits.</p>	
	<p>REPRODUCTION IN PLANTS</p>	
	<p>6. Modes of Reproduction Asexual reproduction, binary fission, Sporulation, budding, fragmentation, vegetative propagation in plants, Sexual reproduction in brief, Overview of angiosperm life cycle.</p>	
UNIT-III	<p>7. Sexual Reproduction in Flowering Plants Stamen, microsporangium, pollen grain. Pistil, megasporangium (ovule) and embryo sac; Development of male and female gametophytes. Pollination – Types, agents , Out breeding devices and Pollen – Pistil interaction. Double Fertilization; Post fertilisation events: Development of endosperm and embryo; development of seed, Structure of Dicotyledonous and Monocotyledonous seeds, Significance of fruit and seed. Special modes – Apomixis, parthenocarpy, polyembryony.</p>	

UNIT-IV	PLANT SYSTEMATICS	
	<p>8. Taxonomy of angiosperms Introduction. Types of Systems of classification (In brief). Semi- Technical description of a typical flowering plant Description of Families: Fabaceae, Solanaceae and Liliaceae.</p>	
UNIT-V	CELL STRUCTURE AND FUNCTION	
	<p>9. Cell – The Unit of Life Cell- Cell theory and cell as the basic unit of life- overview of the cell. Prokaryotic cells, Ultra Structure of Plant cell (structure in detail and functions in brief), Cell membrane, Cell wall, Cell organelles: Endoplasmic reticulum, Mitochondria, Plastids, Ribosomes, Golgi bodies, Vacuoles, Lysosomes, Microbodies, Centrosome and Centriole, Cilia, Flagella, Cytoskeleton and Nucleus. Chromosomes: Number, structural organization; Nucleosome.</p>	
	<p>10. Biomolecules Structure and function of Proteins, Carbohydrates, Lipids and Nucleic acids.</p>	
	<p>11. Cell cycle and Cell Division Cell cycle, Mitosis, Meiosis - significance.</p>	
UNIT-VI	INTERNAL ORGANISATION OF PLANTS	
	<p>12. Histology and Anatomy of Flowering Plants Tissues - Types, structure and functions: Meristematic; Permanent tissues - Simple and Complex tissues. Tissue systems - Types, structure and function: Epidermal, Ground and Vascular tissue systems. Anatomy of Dicotyledonous and Monocotyledonous plants - Root, Stem and Leaf. Secondary growth in Dicot stem and Dicot root.</p>	
UNIT-VII	PLANT ECOLOGY	
	<p>13. Ecological Adaptations, Succession and Ecological Services Introduction. Plant communities and Ecological adaptations: Hydrophytes, Mesophytes and Xerophytes. Plant succession. Ecological services – Carbon fixation, Oxygen release and pollination (in brief).</p>	

Topics deleted under 30% reduction of Syllabus due to COVID-19

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